

WHAT IS CLAIMED IS:

1. An amplifier linearizer comprising:  
a signal cancellation circuit including a signal adjuster having M  
branch signals ( $M \geq 1$ ); and  
5 a controller for adaptively controlling said M-branch signal adjuster,  
said controller including only one monitor receiver to monitor the M branch signals.
2. An amplifier linearizer comprising:  
a distortion cancellation circuit including a signal adjuster having N  
branch signals ( $N \geq 1$ ); and  
10 a controller for adaptively controlling said N-branch signal adjuster,  
said controller including only one monitor receiver to monitor the N branch signals.
3. An amplifier linearizer comprising:  
a signal cancellation circuit including a signal adjuster having M  
branch signals ( $M \geq 1$ );  
15 a distortion cancellation circuit including a signal adjuster having N  
branch signals ( $N \geq 1$ ); and  
a controller for adaptively controlling said M-branch signal adjuster  
and said N-branch signal adjuster, said controller including only one monitor receiver  
to monitor the M branch signals and only one monitor receiver to monitor the N  
20 branch signals.
4. An amplifier linearizer comprising:  
a signal cancellation circuit including a signal adjuster having M

branch signals ( $M \geq 1$ ); and

a local oscillator for producing a plurality of pilot tones to guide adaptation of said signal adjuster.

- 5                   5.       A feedforward amplifier linearizer comprising:  
  
a signal cancellation circuit; and  
  
a distortion cancellation circuit,  
  
wherein the signal cancellation circuit and distortion cancellation circuit are configured such that the linearizer achieves approximately 35 dB of distortion cancellation over a 15 MHz bandwidth.
- 10                  6.       A feedforward amplifier linearizer according to Claim 5,  
  
wherein the linearizer instead achieves approximately 35 dB of distortion cancellation over a 25 MHz bandwidth.
7.       A feedforward amplifier linearizer according to Claim 5,  
  
wherein the linearizer instead achieves approximately 25 dB of distortion cancellation  
15 over a 60 MHz bandwidth.
8.       A feedforward amplifier linearizer according to Claim 5,  
  
wherein the linearizer instead achieves approximately 20 dB of distortion cancellation  
over a 75 MHz bandwidth.